

REMARKS

By way of the Amendment filed herewith, Claims 29, 30, and 38 are cancelled. Claim 51 is added. Hence, claims 25-28, 31, 32, 34-37, and 39-50 are presently pending.

In the Office Action of August 19, 2008, claims 25-28, 30, 31, 32, 34-37, 39, 41-44, 47, 49, and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253).

Claim 40 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 24 and further in view of Ibanbdeljalil (US 6,365,958).

Claim 29 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 24 and further in view of Brown (US 6,030,896).

Claim 46 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 42 and further in view of Ito (US 6,573,607).

Claim 48 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 42 and further in view of Brown (US 6,030,896).

Claim 38 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 24 and further in view of Kohl (US 2002/0081787).

Claim 45 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,555,467) in view of Avanzino (US 2003/0218253) as applied to claim 42 and further in view of Leu (US 6,605,874).

Reconsideration and allowance of the claims in light of the amendments and arguments herein are respectfully requested.

103(a) Rejections

We would like to thank the Examiner for giving due consideration to our previous arguments.

Claim 25, as amended, provides:

25. A semiconductor layer arrangement, comprising:
a substrate;

a layer being arranged on the substrate, the layer including a first subregion and a second subregion arranged proximate to the first subregion, the first subregion being a decomposable and photopatternable material and the second subregion having a structure of non-decomposable material;

an electrically conductive passivation layer substantially covering an upper surface of the structure of non-decomposable material; and

a covering layer positioned on the layer including the first subregion and second subregion,

the covering layer substantially covering an upper surface of the electrically conductive passivation layer;

wherein the decomposable and photopatternable material is diffusible through the covering layer while the first subregion being mechanically closed off with respect to the outside world (bold added).

Claim 42, as amended, provides:

42. A process for forming a layer arrangement, comprising:

forming a layer on a substrate, the layer including a first subregion and a second subregion arranged proximate to the first subregion, the first subregion having a material which is both decomposable and photopatternable and the second subregion having a structure of a non-decomposable material;

forming an electrically conductive passivation layer substantially covering an upper surface of the structure; and

forming a covering layer on the layer including the first subregion and second subregion, the covering layer substantially covering an upper surface of the electrically conductive passivation layer;

wherein the material which is both decomposable and photopatternable is removable from the layer arrangement by diffusing through the covering layer while the first subregion is mechanically closed off to all area outside the layer arrangement (bold added).

A decomposable material being photopatternable is disclosed at least in paragraph

0032. No new matter has been added by way of the amendment.

Neither Hsu, Avanzino nor Kohl, either alone or in combination, teach the subject matter of amended claims 25 and 42 in which the decomposable material is also photopatternable. Hsu in fact teaches that the decomposable layer (18) is spin coated and then coated by hard masks 20 and 22 through which etching of layer 18 occurs. Hsu therefore does not disclose a photopatternable layer.

Avanzino on the other hand discloses simply a porogen which is etchable (paragraph 0036 and Fig. 5). There is no indication, explicit or otherwise that the decomposable layer is photopatternable. Kohl meanwhile specifically teaches only that

the dielectric polymer of the disclosure is photosensitive (paragraph 0080). Because none of the cited references discloses a decomposable material that is also photopatternable, the subject matter of claims 25 and 42 is not obvious in view of Hsu and Avanzino, nor by a combination of Hsu, Avanzino in combination with Kohl.

Applicants submit that claims 25 and 42 are novel and non-obvious in view of the prior art.

Claims 26-28, 31, 32, 34-37, 40, and 41 being dependent on claim 25, and claims 43-50 being dependent on claim 42 are also believed to be novel and non-obvious for at least the reasons given above.

New Claim 51

Claim 51 is based on the subject matter of previously presented claims 25 and 39. The Examiner in his previous arguments identified Hsu as disclosing supporting structures 42 and 72 in Fig. 11. We disagree with this interpretation and believe instead that structures 42 and 72 are not supporting structures, that they undertake no supporting functionality and that they are instead the components of a vertical via or interconnect. Therefore we believe the structure of new claim 51 is obvious in view of Hsu with Avanzino. In view of this we believe the subject matter of claim 51 to be novel and non-obvious.

CONCLUSION

Therefore, in view of the above amendments and remarks, we respectfully submit that this application is in condition for allowance and such action is earnestly requested.

If for any reason the Examiner is not able to allow the application, he is requested to contact the Applicants' undersigned attorney at (312) 321-4200.

Respectfully submitted,

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